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PTO/SB/21 (09-04)

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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

16

Application Number

10/065,018

Filing Date

September 11, 2002

First Named Inventor

Marc SCHAEPKENS

Art Unit

2879

Examiner Name

Sharlene L. Leurig

Attorney Docket Number

GER01 002

### ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input checked="" type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	IDS Fee after Allowance
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<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		

#### Remarks

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 04-1679. A duplicate copy of this sheet is enclosed.

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	DUANE MORRIS LLP		
Signature			
Printed name	Mark C. Comtois		
Date	September 23, 2005	Reg. No.	46,285

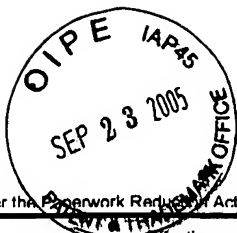
### CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/17 (12-04)

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# FEE TRANSMITTAL

## For FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 180.00)

### Complete if Known

Application Number	10/065,018
Filing Date	September 11, 2002
First Named Inventor	Marc SCHAEPKENS
Examiner Name	Sharlene L. Leurig
Art Unit	2879
Attorney Docket No.	GER01 002

### METHOD OF PAYMENT (check all that apply)

- ☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_
- ☒ Deposit Account Deposit Account Number: 04-1679 Deposit Account Name: DUANE MORRIS LLP
- For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)
- ☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee
- ☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

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### FEE CALCULATION

#### 1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

#### 2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims	Fee (\$)	Fee Paid (\$)
- 20 or HP =	x	=				
HP = highest number of total claims paid for, if greater than 20						
Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)			
- 3 or HP =	x	=				
HP = highest number of independent claims paid for, if greater than 3						

#### 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	(round up to a whole number) x	=	

#### 4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other: Submission of IDS after Allowance \$180.00

SUBMITTED BY			
Signature		Registration No. (Attorney/Agent)	46,285
Name (Print/Type)	Mark C. Comtois	Telephone	202.776.7800
		Date	September 23, 2005

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ATTORNEY DOCKET NO. GER01 002

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Patent Application of : Marc SCHAEPKENS

Serial No.: 10/065,018

Art Unit: 2879

Filed: September 11, 2002

Examiner: Sharlene L. Leurig

Title: DIFFUSE BARRIER COATINGS HAVING GRADED COMPOSITION AND  
DEVICES INCORPORATING THE SAME

**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Issue Fee  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I hereby state that no item of information in the Information Disclosure Statement filed herewith was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than 3 months prior to the filing of this Information Disclosure Statement.

09/26/2005 MBEYENE1 00000031 10065018

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The below references are listed for consideration in the examination of the subject application.

**U.S. PATENTS:**

<u>Patent No.</u>	<u>Patentee(s)</u>	<u>Issue Date</u>	<u>Examiner Initials</u>
5,654,084	EGERT	August 5, 1997	

**Explanation of U.S. Patent No. 5,654,084**

U.S. Patent No. 5,654,084 (“Egert”) discloses a coating to prevent interaction between a device and the environment. The Abstract states: “An enhanced protective coating to prevent interaction between constituents of the environment and devices that can be damaged by those constituents. This coating is provided by applying a synergistic combination of diffusion barrier and physical barrier materials. These materials can be, for example, in the form of a plurality of layers of a diffusion barrier and a physical barrier, with these barrier layers being alternated.” At col. 4 ll. 37-44, the specification mentions, without any supporting information or examples, that the layer can be a “continuum coating” rather than comprising distinct layers.

Figures 3 and 4, discussed at col. 4 line 45 through col. 5 line 13, depict the effectiveness of the Egert coating. While the Figures do not specifically show an H<sub>2</sub>O permeability value in the units of g/m<sup>2</sup>-day, there is sufficient information in the Figures to derive an H<sub>2</sub>O permeability value in those units. The derivation follows.

Egert used the example of applying a protective coating to prevent LiH from reacting with/absorbing water. When LiH reacts with/absorbs water, its weight will increase. By measuring this weight gain, the permeability value of the protective coating can be extracted. The weight gain of LiH can be calculated using the equation:

$$\Delta G = C \cdot A \cdot WVTR \cdot T$$

where:

$\Delta G$  is the weight gain, having the units of  $g$

$C$  is the water reaction/absorption coefficient of LiH, having *no units*

$A$  is the area of protective coating, having the units of  $m^2$

$WVTR$  is the Water Vapor Transmission Rate of the protective coating,  
having the units of  $g/m^2 \cdot day$

$T$  is the duration of the measurement, having the units of *days*.

The bulk permeability for parylene is  $0.21 \text{ g.mil}/100\text{in}^2 \cdot \text{day}$  (from Permeability and other film properties of plastics & elastomers, William Andrew Publishing, 1995), which, after unit conversion, equals  $3.26 \text{ g.mil}/m^2 \cdot \text{day}$ . In Figure 3 of Egert, plotted line 34 corresponds to a  $25 \mu\text{m}$  (1 mil) thick layer of parylene. Thus, using the above equation, the WVTR through Egert's parylene layer is:

$$WVTR = 3.26 \text{ g} \cdot \text{mil} / m^2 \cdot \text{day} / 1\text{mil} = 3.26 \text{ g} / m^2 \cdot \text{day}$$

Referring now to Figure 3, plot 34, the parylene coated LiH gains 0.23 mg after 580 hrs (24.17 days). This results in a  $C \cdot A$  value of:

$$C \cdot A = \frac{\Delta G}{WVTR \cdot T} = 2.93 \times 10^{-6} m^2$$

Since  $C \cdot A$  will be a constant for Egert's LiH sample, the  $WVTR$  of Egert's multilayered protective coating can then be calculated by:

$$WVTR = \frac{\Delta G}{C \cdot A \cdot T}$$

Since the quantity  $CA$  is known from the above calculation and we can get the  $\Delta G$  and  $T$  values from Figure 4, we can determine the  $WVTR$ , which is the  $H_2O$  permeability value for the coating. Exhibit A lists the structure of the coating and the numerical identifier in Figure 4, the  $\Delta G$  and  $T$  values from Figure 4, the calculated  $WVTR$  for each multilayered structure of Figure 4, and compares the calculated  $WVTR$  values with the barrier coating requirements for organic light emitting diodes (“OLEDs”) and other light emitting devices.

As can be easily seen from Exhibit A, the permeability values for the coating disclosed and described in Egert fall far short (by four orders of magnitude) of the barrier layer permeability requirements for a light emitting device. Therefore, it is plainly obvious that the barrier layer disclosed in Egert cannot be used for protecting light emitting devices.

## **Conclusion**

One of skill in the art of barrier layers for OLEDs and light emitting devices would not consider Egert’s barrier coating because of the huge disparity between Egert’s barrier coating permeability performance and the permeability requirement for light emitting devices.

As the disclosed barrier coating of Egert does not usable for a light emitting device, Applicant considers the claims in the application to be in condition for allowance and accordingly respectfully requests that the application and all claims be allowed.

A copy of the '084 patent is attached hereto.

As this Information Disclosure Statement is submitted pursuant to 37 CFR

1.97(d), a check in the amount of \$180.00 is submitted herewith as required by 37 CFR

1.17(p).

Respectfully submitted,



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Dated: September 23, 2005